

IN THE CLAIMS

1. (Currently Amended) A device in a process, the device comprising:
a substrate including at least one alignment mark;
a device structure formed over the substrate; and
a masking structure formed over the device structure, the masking structure including an amorphous carbon layer, wherein the amorphous carbon layer is transparent in visible light range for improving a reading of the alignment mark in the visible light range.
2. (Original) The device of claim 1, wherein the amorphous carbon layer has an absorption coefficient between about 0.15 and about 0.001 at wavelength of 633 nanometers.
3. (Original) The device of claim 1, wherein the visible light range includes electromagnetic radiation having wavelengths between 400 nanometers and 700 nanometers.
4. (Original) The device of claim 1, wherein the amorphous carbon layer has a thickness greater than 4000 Angstroms.
5. (Original) The device of claim 4, wherein the device structure has a thickness greater than 40000 Angstroms.
6. (Original) The device of claim 1, wherein the masking structure further includes a silicon oxynitride layer formed over the amorphous carbon layer.
7. (Original) The device of claim 1, wherein the masking structure further includes a photoresist layer.
8. (Original) The device of claim 7, wherein the masking structure further includes an antireflective layer.

9. (Original) The device of claim 7 wherein the photoresist layer includes at least one opening.

10. (Original) The device of claim 9, wherein the amorphous carbon layer includes at least one opening continuous with the at least one opening of the photoresist layer.

11. (Original) The device of claim 1, wherein the device structure includes a layer selected from a material in a group consisting of a conducting material, a non-conducting material, and a semiconducting material.

12. (Original) The device of claim 11, wherein the device structure further includes an amorphous carbon layer, wherein the amorphous carbon layer of the device structure is transparent in visible light range.

13. (Currently Amended) A mask structure for a device, the mask structure comprising:
an amorphous carbon layer formed over a substrate, the substrate including at least one alignment mark, wherein the amorphous carbon layer is transparent to radiation having wavelengths between 400 nanometers and 700 nanometers for improving a reading of alignment marks in the substrate in the wavelengths between 400 nanometers and 700 nanometers.

14. (Original) The mask structure of claim 13, wherein the amorphous carbon layer has an absorption coefficient between about 0.15 and about 0.001 at wavelength of 633 nanometers.

15. (Original) The mask structure of claim 13, wherein the amorphous carbon layer has a thickness of at least 4000 Angstroms.

16. (Original) The mask structure of claim 13 further comprising a photoresist layer.

17. (Original) The mask structure of claim 16 further comprising a cap layer formed over the amorphous carbon layer.

18. (Original) The mask structure of claim 17, wherein the a cap layer includes silicon oxynitride.

19. (Original) The mask structure of claim 16, wherein the photoresist layer includes at least one opening.

20. (Original) The mask structure of claim 19, wherein the amorphous carbon layer includes at least one opening continuous with the at least one opening of the photoresist layer.

21-112. (Canceled)

113. (New) A device in a process, the device comprising:

a substrate including at least one alignment mark;

a device structure formed over the substrate; and

an amorphous carbon layer formed over the device structure, wherein the amorphous carbon layer is transparent in visible light range for improving a reading of the alignment mark in the visible light range, and wherein the amorphous carbon layer has a thickness greater than 4000 Angstroms to allow etching of the device structure without substantially affecting the reading of the alignment marks in the visible light range.

114. (New) The device of claim 113, wherein the device structure has a thickness greater than 40000 Angstroms.

115. (New) The memory device of claim 113 further comprising an antireflective layer formed over the device structure and directly contacting the amorphous carbon layer.

116. (New) The memory device of claim 113 further comprising a silicon oxide layer formed over the device structure and directly contacting the amorphous carbon layer.

117. (New) The memory device of claim 116 further comprising a photoresist layer formed over the device structure and directly contacting the silicon oxide layer.

118. (New) The memory device of claim 113 further comprising a hydrogenated silicon oxide layer formed over the device structure and directly contacting the amorphous carbon layer.

119. (New) The memory device of claim 118, wherein the memory device further includes a photoresist layer formed over the device structure and directly contacting the hydrogenated silicon oxide layer.

120. (New) The memory device of claim 113 further comprising a silicon oxynitride layer formed over the device structure and directly contacting the amorphous carbon layer.

121. (New) The memory device of claim 120 further comprising a photoresist layer formed over the device structure and directly contacting the silicon oxynitride layer.

122. (New) The memory device of claim 113 further comprising a hydrogenated silicon oxynitride layer formed over the device structure and directly contacting the amorphous carbon layer.

123. (New) The memory device of claim 122 further comprising a photoresist layer formed over the device structure and directly contacting the hydrogenated silicon oxynitride layer.

124. (New) A memory device comprising:
a substrate including at least one alignment mark;

a device structure formed over the substrate, the device structure including a first amorphous carbon layer, and the device structure including a thickness; and

 a second amorphous carbon layer formed over the device structure, the second amorphous carbon having an absorption coefficient between about 0.15 and about 0.001 at wavelength of 633 nanometers to improve a reading of the alignment mark in wavelengths between 400 nanometers and 700 nanometers, wherein the second amorphous carbon layer has a thickness of at least 4000 Angstroms to allow etching of at least a portion of the thickness of the device structure without substantially affecting the reading of the alignment marks in the wavelengths between 400 nanometers and 700 nanometers.

125. (New) The device of claim 124, wherein the device structure has a thickness greater than 40000 Angstroms.

126. (New) The memory device of claim 124 further comprising an antireflective layer formed over the device structure and directly contacting the second amorphous carbon layer.

127. (New) The memory device of claim 124 further comprising a silicon oxide layer formed over the device structure and directly contacting the second amorphous carbon layer.

128. (New) The memory device of claim 127 further comprising a photoresist layer formed over the device structure and directly contacting the silicon oxide layer.

129. (New) The memory device of claim 124 further comprising a hydrogenated silicon oxide layer formed over the device structure and directly contacting the second amorphous carbon layer.

130. (New) The memory device of claim 129, wherein the memory device further includes a photoresist layer formed over the device structure and directly contacting the hydrogenated silicon oxide layer.

131. (New) The memory device of claim 124 further comprising a silicon oxynitride layer formed over the device structure and directly contacting the second amorphous carbon layer.

132. (New) The memory device of claim 131 further comprising a photoresist layer formed over the device structure and directly contacting the silicon oxynitride layer.

133. (New) The memory device of claim 124 further comprising a hydrogenated silicon oxynitride layer formed over the device structure and directly contacting the second amorphous carbon layer.

134. (New) The memory device of claim 133 further comprising a photoresist layer formed over the device structure and directly contacting the hydrogenated silicon oxynitride layer.